



ENERGY POLICY UPDATE

APRIL 7, 2014

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email [Gloria Castro](mailto:Gloria.Castro@az.gov).

UPCOMING WEBINARS

Pneumatic Control Retrofits Best Practices & Optimal Air-Side Control Peer Exchange
Webinar Sponsor: EERE's Building Technologies Office
Thursday, April 10, 3:00 p.m. to 4:30 p.m. Eastern Daylight Time.
[Register to attend the webinar.](#)

Maintenance Practices For LED Streetlights
Webinar Sponsor: DOE's Municipal Solid-State Street Lighting Consortium
Monday, April 14, 2:00 p.m. to 3:30 p.m. Eastern Daylight Time.
[Register to attend the webinar.](#)

LED Color Stability: 10 Important Questions
Webinar Sponsor: EERE's Solid-State Lighting Program
Tuesday, April 15, 1:00 p.m. to 2:00 p.m. Eastern Daylight Time.
[Register to attend the webinar.](#)

Recent Wind Energy Technology Advances
Webinar Sponsor: Wind Program Stakeholder Engagement & Outreach Initiative
Wednesday, April 16, 3:00 p.m. - 4:00 p.m. Eastern Daylight Time.
[Learn how to join the webinar.](#)

Advanced Energy Retrofit Guide For Healthcare Facilities
Webinar Sponsor: EERE's

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

[\\$1 Billion Settlement to Aid Navajo Mine Cleanup](#)

Funds are part of a \$5 billion nationwide settlement to rectify Kerr-McGee pollution.
[AzCentral.com, Apr. 4] The EPA will spend \$985 million to help the Navajo Nation clean up 50 mines. The money is part of a \$5.15 billion settlement with the successor to Kerr-McGee. Navajo Nation is exploring ways to clean up hundreds of other mines. A \$1 billion cleanup of abandoned uranium mines on the Navajo Reservation could soon begin under a record U.S. Department of Justice settlement announced Thursday. The \$5.15 billion settlement, described as the largest ever recovered for environmental enforcement, includes cleanup projects at several locations nationwide. It stems from a bankruptcy case involving Kerr-McGee, an oil-exploration and energy company that mined uranium and left behind 85 years' worth of pollution across the country. Anadarko Petroleum Corp., which acquired Kerr-McGee in 2006, will pay the settlement.

[APS Makes Startling Predictions about Future Energy Mix](#)

[Fierce Energy, April 2] Arizona Public Service has submitted its Integrated Resource Plan with the Arizona Corporation Commission, which it files every two years. The report identifies three major trends shaping Arizona's energy future. First, the report predicts that energy from renewable sources will double by 2029 with rooftop solar tripling over the same time period. Savings from energy efficiency measures, intended to reduce customer demand, are forecast to triple by 2029. Second, natural gas will be the energy source of choice. Arizona will need more generation from natural gas, which can start and ramp up quickly, and can provide energy reliably day or night, when renewable energy is unavailable. Over the next 15 years, natural gas is projected to surpass coal and nuclear as the largest source of electricity generation for APS customers. Finally, thanks to advanced technology and grid modernization, over the 15-year planning period, APS customers will have more choices about their energy use, including smart appliances, plug-in electric vehicles, rooftop solar panels and battery storage. APS plans to invest \$170 million in modern grid technology over the next five years, including installing more than 5,000 advanced devices across the grid.

Building Technologies Office
Thursday, April 17, 1:00 p.m. -
2:30 p.m. Eastern Daylight Time.
[Register to attend the webinar.](#)

**The 2014 Farm Bill's
Renewable Energy For
America Program**

Webinar Sponsor: Wind
Program Stakeholder
Engagement & Outreach
Initiative
Wednesday, May 21, 3:00 p.m. -
4:00 p.m. Eastern Daylight Time.
[Learn how to join the webinar.](#)

[ENERGY STAR Webinars](#)

[U.S. Dept. of Energy Tribal
Renewable Energy Webinar
Series for 2014](#)

[More Than \\$2.5 Mil to Go to Dine' College and Navajo Technical University Annually Through 2020](#)

[Navajo-Hopi Observer, Apr. 1] PHOENIX - Transaction Privilege Tax (TPT) revenues collected on the Navajo Nation will be used to provide as much as \$1.75 million annually for Dine' College and \$875,000 annually for Navajo Technical University (NTU) through 2020. In support of this, Navajo Nation President Ben Shelly met with Arizona Gov. Jan Brewer on March 26 to sign a funding agreement between the Navajo Nation, the state of Arizona, Dine' College and Navajo Technical University. A funding agreement between the Nation and Arizona has been in place since 1999, but recent amendments to the legislation allowed for money to also be provided for Navajo Technical University.

[One Tax Break for Apple, Tesla Blocked; Two Others Moving Forward at Arizona Legislature](#)

[Phoenix Business Journal, Apr. 4] A proposed equipment tax break for Apple Inc's Mesa manufacturing plant has been blocked at the Arizona Legislature even as two other Apple-related tax bills move toward passage. The pair of bills could also help Tesla Motors if it lands a \$5 billion battery plant in Arizona. Right now, Senate Bill 1412 is not moving anywhere. The measure would allow companies paying the lower 5 percent state property tax rate to write off their equipment and machinery faster. Companies such as Apple and Intel Corp. pay the 5 percent rate while most Arizona businesses pay a higher 19.5 percent rate. Current tax rules allow those higher taxpayers to write-off equipment faster than the lower 5 percent payers. SB 1412 would have changed that and benefited Apple and its new plant in Mesa. Technology and manufacturing interests favor the proposal, but small businesses and fiscal conservatives are opposed.

[Pinal Land Considered for Planned Tesla Factory](#)

[Az Republic, Apr. 1] Pinal County is in the running for Tesla's planned battery factory, county officials and business leaders say. They cite the confluence of Union Pacific's transcontinental railroad and Interstates 10 and 8 as major advantages. Palo Alto, Calif.-based Tesla Motors Inc. announced in February that Arizona was among four states in contention for a \$4 billion factory that could employ 6,500, although few details of the pending decision have been revealed. The factory could supply as many as 500,000 batteries a year, shipping them to California to be assembled into Tesla's electric vehicles.

[Tesla Hopes to Sell Cars in Arizona](#)

[Az Republic, Apr. 4] The black Tesla Model S merges onto the southbound Loop 101 through midmorning traffic, and with a slight feathering of the accelerator, leaps ahead into the flow of traffic. The exhilaration of driving an all-electric car from the California manufacturer is only shared by about 413 Arizonans today. One reason, beyond the nearly \$70,000 starting price, is that the company can't even discuss selling the car to customers who stop by the Tesla Motors Inc. gallery in Scottsdale Fashion Square. State law prohibits it, requiring car makers to sell through dealerships only. Tesla, which only makes about 25,000 vehicles a year, has no dealers. Tesla can sell hats and T-shirts in Scottsdale, but no cars. But changes to state law have been considered to allow the company to sell directly to customers without dealers, and they've taken on a new urgency with the company shopping in Arizona, Nevada, New Mexico and Texas for a 6,500-worker battery factory. Rep. John Kavanagh, R-Fountain Hills, took the first stab at changing state law to allow Tesla to sell cars here without dealerships. He visited the gallery in the Scottsdale mall, and was frustrated when he learned people couldn't actually buy the car here.

[Tesla Keeps Suitors Guessing About Battery Factory Site](#)

[San Francisco Chronicle, Apr. 2] With four states vying to host Tesla Motors' planned \$5 billion battery factory, no one has yet to emerge as the likely winner. No one except Tesla, that is. The states named by Tesla as the four top candidates for the factory - Arizona, Nevada, New Mexico and Texas - are scrambling to entice the maker of electric cars any way they can. In Arizona and Texas, for example, politicians have proposed

changing state laws that block Tesla from selling cars directly to the public. That's a big issue for the Palo Alto company because traditional franchise auto dealers across the country have challenged Tesla's direct-sales model. But analysts doubt the company will base its ultimate decision on politics.

[Video Pitch to Tesla Motors: Tucson Has the Pioneers You Need](#)

[Arizona Daily Star, Apr. 3] A new video about Tucson's pioneering spirit has been created in the hopes of piquing the interest of Tesla Motors CEO Elon Musk. The electric-car maker is in the process of selecting a site for a "gigafactory" to manufacture lithium-ion batteries, and Tucson has made a big pitch for the plant, which could potentially add 6,500 jobs to the region. "After reading the articles about Tesla looking at Tucson, I came up with the concept," said Tony Ford, chairman of the Downtown Innovation District, owner of Maker House and co-founder of Art Fire. "It's proof of what we can do in Tucson." As scenes of Tucson flash across the screen, a 3-D Tesla vehicle is seen cruising local streets.

ALTERNATIVE ENERGY & EFFICIENCY

[Dairy Finds a Way to Let Cows Power Trucks](#)

[New York Times, Mar. 28] FAIR OAKS, Ind. — Here at one of the largest dairy farms in the country, electricity generated using an endless supply of manure runs the equipment to milk around 30,000 cows three times a day. For years, the farm has used livestock waste to create enough natural gas to power 10 barns, a cheese factory, a cafe, a gift shop and a maze of child-friendly exhibits about the world of dairy, including a 4D movie theater. All that, and Fair Oaks Farms was still using only about half of the five million pounds of cow manure it vacuumed up from its barn floors on a daily basis. It burned off the excess methane, wasted energy sacrificed to the sky. But not anymore. The farm is now turning the extra manure into fuel for its delivery trucks, powering 42 tractor-trailers that make daily runs to raw milk processing plants in Indiana, Kentucky and Tennessee. Officials from the federal Department of Energy called the endeavor a "pacesetter" for the dairy industry, and said it was the largest natural gas fleet using agricultural waste to drive this nation's roads. As long as we keep milking cows, we never run out of gas," said Gary Corbett, chief executive of Fair Oaks, which held a ribbon-cutting event for the project this month and opened two fueling stations to the public. "We are one user, and we're taking two million gallons of diesel off the highway each year," he said. "That's a big deal." The switch comes at a time of nascent growth for vehicles that run on compressed natural gas in the United States, as some industries — particularly those that require long-haul trucking or repetitive routes — have started considering the advantages of cheap natural gas, close to half the price of a gallon of diesel fuel for the same amount of power. The American Gas Association estimates there are about 1,200 natural gas fueling stations operating across the country, the vast majority of which are supplied by the same pipelines that heat houses.

[Geothermal Energy Is a Superior Solution for Today's Electrical Grids](#)

Energy resource technology that provides stability for changing US power grids is available today from geothermal developers.

[RenewableEnergyWorld.com, Apr. 4] WASHINGTON, D.C. --Geothermal resources provide about 3,440 MW of power to the United States electrical grid as of early 2014. [In a recent report](#), the Geothermal Energy Association explored geothermal power's unique values that make it essential to the U.S. energy mix. These plants have the same important baseload qualities coal now provides for over two thirds of the electric power generation in the nation. Geothermal can be a high-value substitute for baseload fossil fuel or nuclear power plants, providing firm, clean power 24 hours a day regardless of extraneous conditions. "As state and national policies move to significantly reduce climate changing power emissions, geothermal is a baseload clean energy that can replace baseload fossil fuels at a minimum cost to the power system," says Karl Gawell, GEA's executive director. Gawell explains that as the grid uses more variable energy resources, which it most certainly will, the flexibility of geothermal energy is an attribute

that regulators are still learning about. "Flexible geothermal can help firm the system, allowing for imbalance, and is able to provide supplemental reserve," he adds. The U.S. continues to make strides toward a cleaner energy mix largely through wind and solar contracts to meet goals of state Renewable Portfolio Standards. This creates a greater need for firming power, and although geothermal can provide this as well, it could get lost in the mix if natural gas becomes a fallback to offset intermittency. In his 2014 State of the Union address, President Obama called natural gas "the bridge fuel that can power our economy with less of the carbon pollution that causes climate change." Geothermal energy, too, provides the same stabilizing function as natural gas and comes with unique environmental and economic ancillary benefits. Ancillary services support the transmission of electricity from a supplier to a purchaser and include scheduling and dispatch, reactive power and voltage control, loss compensation, load following, system protection, and energy imbalance. A geothermal plant can be engineered to optimize these services. In most geothermal plants built today, operators can increase or decrease the amount of power being generated in order to match load requirements — such as making up for gaps caused by intermittency. Geothermal energy and natural gas play a similar role to the power grid with the capability to dispatch, or to change a facility's power output by ramping up or down depending on system needs.

[Mining Big Data for an Energy-Efficient Future](#)

Advanced supercomputer technology can point the way to a greener city

[LA Times, Apr. 1] Processing and analyzing huge amounts of energy-usage data has helped make UC San Diego one of the greenest universities in the U.S., thanks in no small part to the San Diego Supercomputer Center (SDSC), an organized research unit of the university. Now the center is moving beyond the university to take on a new challenge — creating a greener San Diego. Sustainability has long been a focus at the university, where 92% of the energy is renewable, generated with solar panels and second-life batteries, with electric and hybrid vehicles used for on-campus transportation. When SDSC came onboard, energy-efficiency soared to an even higher level. The center's contribution lies in its capacity to process what's known as "big data" — the staggering amount of information that pours into the world each day. "It's not just large data. It's so fast it's like we have a fire hose of data coming at us," said Natasha Balac, director of SDSC's Predictive Analytics Center of Excellence. But for Balac and her team, harnessing that onslaught of information is an exciting challenge — one that's crucial to increasing sustainability. A main source of data about UC San Diego's energy usage is the university's "smart" microgrid, one of the most advanced in the world. What makes a grid smart is its ability to provide feedback on consumption from smart grid sensors on buildings, appliances and more. By processing and interpreting the information, the system can drive reduced consumption, identify grid instability and more.

[SunEdison: The Global Market for Solar Irrigation Is Almost Limitless](#)

[Forbes, Apr. 4] Pashupathy Gopalan, President of SunEdison for the Asia Pacific and Middle East regions believes that solar power is the future for irrigated agriculture, and the market could be huge. In fact, the solar capacity dedicated to irrigation could someday exceed the amount of solar in the world today (137,000 megawatts – MW). It sounds far-fetched, and maybe it is, but Gopalan reminds us that "if you were in 2003 and 2004 and said we'd get to over 130,000 MW of solar, it would have sounded like a dream." Irrigation is big business. Global information from 2009 (the most recent available data from the U.N.'s Food and Agriculture Organization) indicates that the [countries with the largest irrigated areas](#) were India (39 million hectares), China (19 million), and the United States (17 million).

ENERGY/GENERAL

[AGA Leading Best Practice Initiative for Emissions Reduction](#)

[Energy Manager Today, Apr. 1] The American Gas Association (AGA) and thirteen of its

member companies have been participating with the Environmental Defense Fund in a multi-city study conducted by the Washington State University to measure methane emissions from natural gas distribution systems, resulting in real-world data that was previously unavailable. "Safety is the top priority for natural gas utilities, and due to continuing efforts to modernize infrastructure and enhance pipeline safety, natural gas emissions are on a declining trend," said AGA Chairman Gregg Kantor. "This is not an industry that rests on its laurels. We remain vigilant and deeply committed to continually upgrading our infrastructure." The results of Washington State University study will be published this summer.

[Ethanol Price Spike Means You Pay More for Gasoline](#)

Ethanol used to make gasoline cheaper; its recent surge is adding costs per gallon
[MarketWatch.com, Apr. 4] SAN FRANCISCO (MarketWatch) — Drivers are paying more for gasoline because of ethanol's 30% price surge this year. Some relief may be in sight. Most of the gasoline sold has some ethanol in it, with the fuel additive accounting for about 10% of the volume of 134 billion gallons of gasoline consumed in 2012, U.S. government data show. Prices this year have surged about 30% to \$2.30 a gallon, according to FactSet data. "No market in energy has had the off-the-charts increases that we've seen in ethanol in 2014," said Tom Kloza, chief oil analyst at GasBuddy.com. Ethanol has also been volatile. The most-active [ethanol futures contract](#), which is currently May, on Thursday fell 8% on the [Chicago Board of Trade](#), after dropping 10% a day earlier. "Gravity can smack markets at the speed of light. Panic buying was eclipsed by panic selling," said Kloza. In just March, ethanol prices shot up 22%. That's bad news for consumers.

[Five States and the Gulf of Mexico Produce More Than 80% of U.S. Crude Oil](#)

[EIA.gov, Mar. 31] Five states and the Gulf of Mexico supplied more than 80%, or 6 million barrels per day, of the crude oil (including lease condensate) produced in the United States in 2013. Texas alone provided almost 35%, according to preliminary 2013 data released in EIA's March [Petroleum Supply Monthly](#). The second-largest state producer was North Dakota with 12% of U.S. crude oil production, followed by California and Alaska at close to 7% each and Oklahoma at 4%. The federal offshore Gulf of Mexico produced 17%. Total U.S. crude oil production grew 15% in 2013 to 7.4 million barrels per day. Texas and North Dakota led that growth, with their crude oil outputs each increasing 29% from 2012. Production gains in both states came largely from shales, especially the Eagle Ford in Texas and the Bakken in North Dakota. In the three years since 2010, North Dakota's crude oil output has grown 177% and Texas's output 119%, the fastest in the nation. Three other states that were among the top 10 U.S. producers in 2013 also experienced production growth rates above 20% during the past three years. Colorado, which overlies part of the Niobrara Shale, had 93% growth in production from 2010 to 2013; Oklahoma, with the Woodford Shale, had 62% growth; and New Mexico, which shares the Permian Basin with Texas, had 51% growth.

[Resilient Cities Focus of New Sandia, Rockefeller Foundation Pact to Help 100 Communities](#)

Scientific, engineering solutions for disaster recovery, sustainability
[Sandia National Labs, Apr. 1] Albuquerque, N.M. — Sandia National Laboratories will bring decades of experience solving problems with practical engineering and modeling complex systems to cities around the world under a new agreement to support the [100 Resilient Cities Centennial Challenge](#), pioneered by the [Rockefeller Foundation](#). The challenge, which will help [33 cities](#) in its first year, seeks to make communities more resilient, by being better prepared to withstand natural or manmade disasters, recover more quickly and emerge stronger. "We are eager to partner with the 100 Resilient Cities Centennial Challenge," said Jill Hruby, vice president of International, Homeland, and Nuclear Security at Sandia, who signed the memorandum of understanding. "We see this as an opportunity to bring the best minds in science and engineering to help people around the world recover from the shocks and stresses of modern threats and times." Michael Berkowitz, managing director for 100 Resilient Cities at the Rockefeller

Foundation and the CEO of the 100 Resilient Cities Centennial Challenge, said, "We're excited to welcome Sandia National Laboratories as the newest partner to the 100 Resilient Cities platform, and for them to begin offering 100 Resilient Cities network members Sandia's technical expertise in developing risk assessments, modeling complex systems and finding innovative engineering solutions that can help cities build resilience."

[Utilities Investing Unprecedented Amounts in Transmission Infrastructure](#)

[Fierce Smart Grid, Apr. 2] Investor-owned electric utility companies are continuing to make significant investments to build needed transmission infrastructure, updating the nation's transmission network to meet 21st Century needs and demands, according to the Edison Electric Institute (EEI). In 2012, EEI members' total transmission investment reached \$14.8 billion and EEI expects year-over-year transmission investment to hit a new peak in 2013 of approximately \$17.5 billion. "The high level of investment in our nation's transmission infrastructure will enable electric utilities to improve reliability, relieve congestion, facilitate wholesale market competition, and support a diverse and changing generation portfolio for the benefit of electricity customers," said Jim Fama, EEI vice president of Energy Delivery. "Investments to deploy new technologies, such as advanced monitoring systems, are helping to make the grid more flexible and resilient." The EEI report features a cross-section of more than 170 major transmission projects that EEI members completed in 2013, or have planned for the next 10 years, and represent only a portion of total transmission investment anticipated through 2024 (approximately \$60.6 billion).

INDUSTRIES AND TECHNOLOGIES

[Cogeneration Council to Drive CHP](#)

[Fierce Energy, Apr. 3] The World Alliance for Decentralized Energy (WADE) and the Texas Combined Heat and Power (CHP) Initiative (TXCHPI) have merged to form the Cogeneration Industries Council (CIC), which will focus on federal and state government affairs, industry-wide promotion, and advocacy, on behalf of the rapidly growing cogeneration power industry. The CIC's central goal will be to help drive the deployment of cogeneration (or combined heat and power to which it is commonly referred) and distributed generation across the U.S. As a division of WADE, the CIC will bridge the gap between commercial and industrial markets for cogeneration and cogeneration project developers, equipment suppliers, project financing organizations, service providers and others. The CIC will help communicate the value proposition of cogeneration through an expanded offering of conferences, events, and outreach activities, as well as facilitate business development and the sharing of best practices.

[Renewable Energy in America Outlook](#)

[DomesticFuel.com, Apr. 4] The American Council On Renewable Energy (ACORE) has released [The Outlook for Renewable Energy in America: 2014](#) jointly authored by U.S. renewable energy trade associations from the power, thermal, and fuel sectors. The Outlook assesses the renewable energy marketplace and forecasts the future of each renewable energy technology sector, from the perspectives of each of the associations, and provides a list of policy recommendations by the respective associations that would encourage continued industry growth. "ACORE applauds the unity of the renewable industry community and this united front as reflected in *The Outlook for Renewable Energy in America: 2014*," said ACORE President and CEO, Michael Brower. "The report demonstrates the many public and private sector opportunities that exist at the national, regional and local levels for continued industry advancement and investment; however, they are not one-size-fit-all solutions for every renewable technology." Brower noted that the articles in the report detail specific market drivers for the biofuel, biomass, geothermal, hydropower, solar, waste and energy sectors.

[String Inverters Becoming More Popular For Use in Larger Solar PV Plants](#)

[SolarServer.com, More than 40% of potential buyers consider string inverters suitable

for use in solar photovoltaic (PV) plants larger than 1 MW, according to results of a survey by IHS Technology (London). This is a sharp increase from the previous year's survey when only 17% said they would consider using string inverters in systems of this size. The survey of more than 300 PV installers, distributors and engineering, procurement and construction (EPC) contractors also found that Chinese-made inverters are gaining increased acceptance in the United States, Germany and the UK, and that microinverters are becoming more popular, particularly in Europe. "The survey confirmed that the acceptance of string inverters in large systems has accelerated over the last year, mirroring the IHS forecast that these products will gain share in several key PV markets," said IHS Senior PV Market Analyst Cormac Gilligan. "The most common reasons given for solar purchasers preferring string inverters increasingly over central inverters in large systems were better system design flexibility, minimizing losses in the case of failure and lower lifetime system costs." Of more than 200 buyers of string inverters, 80% said that they might use string inverters in systems larger than 100 kW. IHS predicts that low-power three-phase inverter shipments will increase 14% annually for the next four years, to reach annual shipments of nearly 20 GW in 2017.

LEGISLATION AND REGULATION

[Air Pollutants from Biomass Burning Exceeds Coal](#)

[Bloomberg BNA, Apr. 3] Facilities burning biomass emit more air pollutants, including carbon dioxide, per megawatt-hour than those that burn coal, according to a Partnership for Policy Integrity report. The April 2 report, "Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal," examined 88 Clean Air Act permits issued to industrial sources that burn biomass. It found that sources burning biomass emit 50 percent more carbon dioxide per megawatt of electricity generated than coal-burning sources. Additionally, the report said that even the cleanest-operating biomass facilities emit 150 percent more nitrogen oxides, 600 percent more volatile organic compounds, 190 percent more particulate matter and 125 percent more carbon monoxide than coal on a per megawatt-hour basis. The report calls for the Environmental Protection Agency to set more stringent air pollution standards for burning biomass to generate electricity.

[Gas Stations Statewide to Add Back-up Power](#)

[WGRZ.com, Apr. 3] ALBANY - About 250 upstate gas stations can receive federal funding to equip themselves with back-up power capacity in case of emergencies. The funding was included in the state budget approved Monday. Gov. Andrew Cuomo in recent years pushed downstate gas stations to have back-up power after Superstorm Sandy in October 2012 led to a major fuel shortages in the New York City area. Cuomo signed a law last year that would require half of all gas stations in New York City, Long Island and Westchester and Rockland counties to have back-up power in the event of an emergency. The gas stations affected need to be within a half-mile of a highway exit or hurricane evacuation route. The state budget this year includes language that would create a voluntary program for upstate gas stations within a half-mile of a highway exit.

[Hickenlooper Concerned About EPA-Proposed Water Regulation](#)

[Denver Business Journal, Apr. 4] Gov. John Hickenlooper joined 15 GOP senators Thursday to urge the Obama administration to reconsider a rule that would allow the Environmental Protection Agency (EPA) to regulate marshes, ponds and streams in states. The EPA proposed the rule — which would give them power over small waterways that flow intermittently — is part of the issue surrounding clarity in the Clean Water Protection act. The Clean Water Protection act gives the EPA power to monitor and control "U.S. waters," but does not clearly define what waters they can and can't regulate. Hickenlooper expressed concern to federal officials that the rule change would stonewall the state's ability to manage key water systems, and could negatively impact the Colorado economy.

[Senate Committee Approves Hydroelectric Power Tax Credit Extension](#)

[HydroWorl.com, Apr. 3] Washington, D.C. — A bill that would extend tax credits for hydroelectric power was approved today by the U.S. Senate Finance Committee. The

bill, called the *Expiring Provisions Improvement Reform and Efficiency Act*, or EXPIRE, includes a two-year extension of production and investment tax credits for hydropower and other renewable energy technologies. Per present law, "qualified energy resources" including some hydroelectric, and marine and hydrokinetic (MHK) energy received a 1.1 cent per kWh through Dec. 31, 2013. The bill's approval by the committee is being lauded by the [National Hydropower Association](#), which said the tax credit has helped spur dozens of hydro project improvements.

[US Senate Committee Votes to Extend Tax Breaks for Wind Farms](#)

[Associated Press, Apr. 4] Washington, D.C. — U.S. wind farms would keep their treasured tax breaks as part of an \$85 billion package of temporary tax cuts passed by a key Senate committee Thursday. Some U.S. firms with foreign income would be winners too after Senate Finance Committee Chairman Ron Wyden, D-Ore., backed off plans to significantly trim the package. Congress routinely passes the package of more than 50 temporary tax breaks for businesses and individuals, but they were allowed to expire at the start of the year. The Senate Finance Committee voted Thursday to extend all but two of them through 2015. The bill passed on a voice vote, with support from both Democrats and Republicans. Congress is expected to pass the tax package by the end of the year, so businesses and individuals can continue to claim the tax breaks when they file their 2014 taxes next year.

WESTERN POWER

[California Coal Plant Begins New Life as Biomass Facility](#)

[Energy Prospects West, Apr. 1] DTE Energy Services announced March 13 it has completed the conversion of a shuttered coal-fired power plant located at the Port of Stockton to a biomass-fueled facility. The 45-MW Stockton Biomass plant began commercial operations last month and is producing renewable power under a contract with Pacific Gas & Electric. The facility will use about 320,000 tons of woody biomass fuel annually. "The site, once one of the most polluted in San Joaquin Valley, now is home to one of the cleanest solid-fuel power plants in the country," the company noted in a media release. "It is providing 35 high-quality jobs and another 100 indirectly involved with DTE Stockton's fuel supply infrastructure." The plant began operating in 1989, using coal and petroleum coke as fuel, and ceased operation in 2009. The conversion entailed extensive alterations, including new material-handling systems to accommodate the receipt, storage and conveyance of the biomass. It also required construction of a new boiler and installation of best-available control technologies to minimize air emissions.

[California Net-Metering Customers Can Stay on Tariff for 20 Years](#)

[Energy Prospects West, Apr. 1] Net-energy-metering customers of California's investor-owned utilities will be allowed to stay on the current tariff for 20 years, despite complaints by utilities and ratepayer advocates that other customers are subsidizing the generous incentives. The California PUC approved a decision at a March 27 business meeting to create a 20-year transition period for net-metering participants -- mostly those who install rooftop solar -- to use the current tariff [D14-03-041, R12-11-005]. The commission voted 4-0; Commissioner Michael Picker was absent. The 20-year period starts when a net-metered system is interconnected to the grid. CPUC President Michael Peevey said the decision's 20-year term "strikes the right balance" between reducing cost shifts and ensuring a stable solar market. "It's not an easy issue," Peevey said, noting that efforts on designing rate structures and a new net-metering program will continue. "This is the start of an odyssey." Net metering provides financial credit for power from distributed systems such as rooftop solar. But utilities have argued that NEM customers do not pay their share of distribution- and transmission-grid costs, burdening non-participating customers with those costs instead. The CPUC aims to shift to a new, sustainable net-metering effort, but first needed to set a transition period for those who take part in net metering before mid-2017.

[First Geothermal Plant in New Mexico Begins Operations](#)

[KOB Eyewitness News 4, Apr. 3] Deep in the New Mexico Bootheel, an operation that's been ongoing since this past December has tapped into an energy source that's right underneath us. No. We're not talking about fossil fuels. "It's been known for 4 decades that there's geothermal product that's right here right under our feet, and it's a viable source from which we can tap and produce electrical power," said Chuck Smiley from Lightning Dock Geothermal. Lightning Dock, along with PNM, are now extracting that "geothermal product," which is a renewable resource. Simply put, it's hot water pumped from reservoirs hundreds of feet below the ground. Heat from the earth's core warms up the water to temperatures up to 300 degrees. That water helps produce electricity. That same water is then re-injected into the underground reservoirs, so the water is continuously recycled. It's been used throughout the west for decades and the Land of Enchantment is finally tapping in. This plant is the first of its kind right in the state and it can produce up to 4 megawatts of energy, which is enough to power 4,000 homes.

[Large-Scale Solar Prices Plummet in the West](#)

[Energy Prospects West, Apr. 1] The U.S. Department of Energy's 2020 SunShot Initiative cost target for utility-scale solar power of \$60 per MWh seemed ambitious when the effort kicked off three years ago. After all, at the time, the average levelized cost of utility-scale solar power in the U.S. was around \$200 per MWh, according to the DOE's National Renewable Energy Laboratory. What a difference a mere three years makes. Current prices for electricity from utility-scale photovoltaic (PV) power plants in the western U.S. already have sunk to approximately \$45 to \$70 per MWh, as reflected in several recently approved power purchase agreements (PPAs) between utilities and developers from California to Texas.

[Quarterly Outlook: Drought to Persist into the Summer for California, Southern Great Plains, Southwest](#)


[Western Governors' Association, Apr. 1] Current drought conditions range from "severe" to "exceptional" in the Southern Great Plains, Nevada and California. Those conditions will persist into summer, according to the most recent Quarterly Climate Impacts and Outlook, and may result in below-average reservoir storage and above-average wildfire potential. The Outlook, produced by the Western Governors' Association (WGA) and the National Oceanic and Atmospheric Administration (NOAA), is a two-page synopsis of recent drought and extreme weather conditions, as well as forecasts for the coming months. The Spring 2014 Outlook just released also shows that drought development in the past three months has been concentrated along the California-Arizona border, western Oklahoma, central Arizona, eastern Washington, and much of Texas.

[Scatec Solar to Build 80MW Solar Plant in US](#)










[Energy Business Review, Apr. 2] Scatec Solar has received final approvals from the Utah Public Service Commission and Iron County Community Development and Renewal Agency for an 80MW (AC) PV solar plant at Iron County in Utah, US. To be built on a site with solar irradiation, the Utah Red Hills Renewable Energy Park is expected to generate around 210 million kilowatt hours (kWh) of electricity in its first full year of operation. The electricity will be fed into the grid under a 20-year power purchase agreement (PPA) with PacifiCorp, which delivers electricity to customers in Utah, Wyoming, and Idaho through Rocky Mountain Power. Being developed on around 650 acres of land in Parowan, the plant will consist of approximately 325,000 PV modules on a single-axis tracking system, interconnecting to an existing PacifiCorp 138kV line in the adjacent Parowan Valley substation. Construction of the ground-mounted photovoltaic solar facility plant, which is claimed to be Utah's largest solar energy generation facility upon completion, is estimated to start in the third quarter of 2014.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

-  [Angel Investment Tax Credit Program](#) - The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona

small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click [here](#). [LEARN MORE](#)

-  **Arizona Innovation Accelerator Fund** - The Arizona Innovation Accelerator Fund Program is an \$18.2 million loan participation program funded through the U.S. Department of Treasury's SSBCI and managed by the Arizona Commerce Authority. The goal of this program is to stimulate financing to small businesses and manufacturers, in collaboration with private finance partners, to foster business expansion and job creation in Arizona. [LEARN MORE](#)
-  **Arizona Innovation Challenge** - The Arizona Innovation Challenge is an investment in the minds of talented entrepreneurs in Arizona and around the world. The ACA will award \$1.5 million to the most promising technology ventures that participate in the Challenge (awards may range from \$100,000 to \$250,000). [LEARN MORE](#)
-  **AZ Fast Grant** - Enables Arizona-based technology companies to initiate the commercialization process. Total funds available for this grant round are \$175,000. Maximum awards of \$5,000 and \$20,000 will enable companies to accomplish one of four scopes of work. [LEARN MORE](#)
-  **AZ Step Grant** - Grant funding from the U.S. Small Business Administration (SBA) with matching funds contributed by the Arizona Commerce Authority (ACA) offering a number of services and tools to Arizona small businesses as they go global for the first time with sales or enter new, international markets. [LEARN MORE](#)
-  **Commercial/Industrial Solar Energy Tax Credit Program** - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. [LEARN MORE](#)
-  **Healthy Forest** - The primary goal of the Healthy Forest Enterprise Incentives Program is to promote forest health in Arizona. The program achieves this by providing incentives for certified businesses that are primarily engaged in harvesting, processing or transporting of qualifying forest products. [LEARN MORE](#)
-  **Job Training Program** offers job-specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. Deadline: Year Round. [LEARN MORE](#)
-  **Renewable Energy Tax Incentive Program** offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. Deadline: Year Round. [LEARN MORE](#)
-  **Research and Development Tax Credit** is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue. [LEARN MORE](#)

- ✚ [Quality Jobs Tax Credit Program](#) - The primary goal of the Quality Jobs Tax Credit program is to encourage business investment and the creation of high-quality employment opportunities in the state. The program accomplishes this goal by providing tax credits to employers creating a minimum number of net new quality jobs and making a minimum capital investment in Arizona. [LEARN MORE](#)
- ✚ [Bonds Administered by the Arizona Commerce Authority](#)
 - [Private Activity Bonds \(PAB\)](#) - Tax exempt bond financing, for federal purposes, offers an alternative financing mechanism for certain projects. [LEARN MORE](#)
 - [Qualified Energy Conservation Bonds \(QECB\)](#) - Tax credit bonds are available as an alternative financing mechanism for certain green projects. [LEARN MORE](#)
- ✚ [Federal Programs](#)
 - [Small Business Innovation Research \(SBIR\) Program](#) - SBIR is a competitive program that encourages small businesses to explore their technological potential, as well as, providing incentive to profit from its commercialization. [LEARN MORE](#)
 - [Small Business Technology Transfer \(STTR\) Program](#) - STTR is an important small business program that expands funding opportunities to meet the nation's scientific and technological challenges in the 21st century. [LEARN MORE](#)
 - [Work Opportunity](#) - The Work Opportunity Tax Credit (WOTC) is a federal tax credit of up to \$9,000 that Congress provides to private-sector businesses for hiring individuals from nine target groups who have consistently faced significant barriers to employment. [LEARN MORE](#)
- ✚ [Pollution Control Tax Credit](#) - Provides a 10 percent income tax credit on the purchase price of real or personal property used to control or prevent pollution.
- ✚ [Renewable Energy Production Tax Credit](#) - An income tax credit awarded to utility-scale generation systems based on the amount of electricity produced annually for a 10-year period using solar or wind energy. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).
- ✚ [Sales Tax Exemption for Machinery and Equipment](#)
Exemptions are available for:
 1. Machinery or equipment used directly in manufacturing, see [ARS 42-5159\(B\)\(1\)](#).
 2. Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution, see [ARS 42-5159\(B\)\(4\)](#).
 3. Machinery or equipment used in research and development, see [ARS 42-5159\(B\) \(14\)](#).

Questions can be directed to Christie Comanita (602-716-6791).

- ✚ [Solar Liquid Fuel Tax Credit](#) - Income tax credits are available for research and development, production and delivery system costs associated with solar liquid fuel. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).
- ✚ [Database of State Incentives for Renewables and Efficiency \(DSIRE\)](#)
 - [Arizona Incentives/Policies](#)

- [Federal Incentives/Policies](#)
- [Solar Policy News](#) - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:

(Click on title to view solicitation)

- [Renewable Carbon Fibers](#) - Concept Papers Submission Deadline: 03/03/2014 at 5:00 P.M. Eastern Standard Time. Submission Deadline for Full Applications: 04/11/2014 at 5:00 P.M. Eastern Standard Time
- [Geothermal Play Fairway Analysis](#) - Close Date: April 11, 2014
- [U.S. Wind Manufacturing: Taller Hub Heights to Access Higher Wind Resources and Lower Cost of Energy](#) - Close Date April 14, 2014
- [Building Energy Efficiency Frontiers and Incubator Technologies \(BENEFIT\) - 2014](#) - Close Date April 21, 2014
- [Clean Energy Manufacturing Innovation Institute for Composites Materials and Structures](#) - Close Date: April 22, 2014
- [Integrated Enhanced Geothermal Systems \(EGS\) Research and Development](#) - Close Date April 30, 2014
- [Low Temperature Geothermal Mineral Recovery Program](#) - Close Date May 2, 2014
- [Commercial Building Technology Demonstrations](#) – Concept Paper Submission Deadline: March 31, 2014. Full Application Submission Deadline: May 19, 2014.
- [Bioenergy Technologies Incubator](#) - Close Date: May 23, 2014
- [Advanced Fossil Energy Projects - Solicitation Number: DE-SOL-0006303](#) - Expiration Date 11/30/2016
- [Sunshot "Race to the Roof" Initiative](#) - Registration Due October 31, 2014
- [Repowering Assistance Program](#) – Ongoing
- [Rural Business Enterprise Grants](#) - Ongoing
- [Rural Business Opportunity Grants](#) – Ongoing
- [Sustainable Agriculture Research and Education Grants](#) - Ongoing
- [Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power](#) – Various Deadlines
-  [U.S. Dept. of Agriculture - Rural Development Grant Assistance](#)


ENERGY-RELATED EVENTS


2014

-  [Transmission Expansion in the West](#)

April 7-8, 2014 Scottsdale, AZ

 [ASHRAE High Performance Building Conference](#)
April 7-8, 2014 San Francisco, CA


 [Clean Tech Future Conference III](#)
April 9, 2014 Phoenix, AZ

 [Arizona Building Officials Conference](#)
April 14-18, 2014 Tucson, AZ

 [Green Tech's Media Solar Summit 2014](#)
April 14-16, 2014 Phoenix, AZ


 [International Geothermal Energy Forum](#)
April 23-24, 2014 Washington, DC

 [32nd Annual Solar Potluck & Exhibition](#)
April 26, 2014 Catalina State Park

 [11th Annual Construction in Indian Country Nat'l., Conference](#)
April 28-30, 2014 Chandler, AZ


 [VerdeXchange Arizona](#)
April 30-May 2, 2014 Phoenix, AZ

 [NEW! ASU School of Sustainability Open House & Student Project Showcase](#)
May 1, 2014 ASU Wrigley Hall – Tempe, AZ

 [Windpower 2014](#)
May 5-8, 2015 Las Vegas, NV


 [Cybersecurity Summit](#)
May 7, 2014 Scottsdale, AZ

 [AWEA Windpower 2014](#)
May 5-8, 2014 Las Vegas, NV

 [AZ Water Association Annual Conference & Exhibition](#)
May 7-9, 2014 Glendale, Arizona.


 [Beyond the Border: Arizona Trade Mission to Mexico City & Guadalajara](#)
May 12-16, 2014


 [Sunshot Grand Challenge Summit 2014](#)
May 19-22, 2014 Anaheim, CA

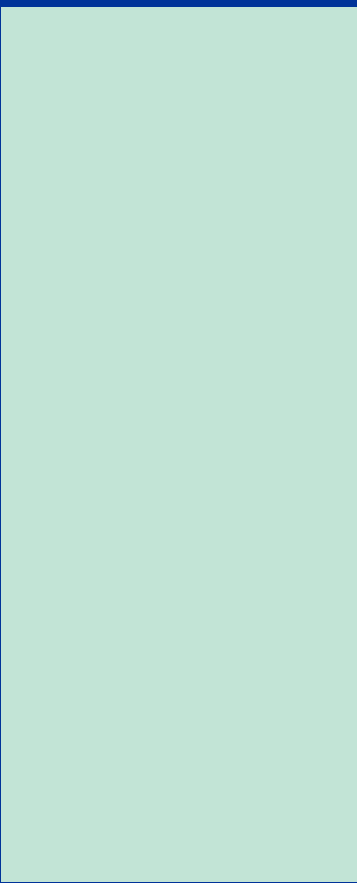










 [Dept. of Energy's 13th Annual Small Business Forum & Expo](#)
June 10-12, 2014 Tampa, FL

 [Native American Economic Development & Energy Projects Conference](#)
June 16-17, 2014 Anaheim, CA

 [AZBio Expo 2014](#)
June 19, 2014 Scottsdale, AZ

 [32nd Annual West Coast Energy Management Congress](#)
June 25-26, 2014 Seattle, WA

 [Solar 2014: 43rd Annual Conference](#)
July 6-10, 2014 San Francisco, CA

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-  [National Geothermal Summit](#)
August 5-6, 2014 Reno, NV
 -  [2014 ACEEE Summer Study on Energy Efficiency in Buildings](#)
August 17-22, 2014 Pacific Grove, CA
 -  [EPI's 4th Annual Energy Policy Research Conference](#)
September 4-5, 2014 San Francisco, CA
 -  [HTUF 2014 National Meeting - The Forum for Action in High-Efficiency Commercial Vehicles](#)
September 22-24, 2014 Argonne, National Lab Argonne, IL
 -  [Geothermal Energy Expo](#)
September 28-October 1, 2014 Portland, OR
 -  [Solar Power International](#)
Oct. 20-23, 2014 Las Vegas, NV
 -  [NEW! GreenBuild International Conference & Expo](#)
October 22-24, 2014 New Orleans, LA
 -  [Governor's Celebration of Innovation](#)
November 13, 2014
 -  [ASU Sustainability Series Events](#)
 -  [Green Building Lecture Series](#)
Granite Reef Senior Center Scottsdale, AZ